

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) ~~Apparatus~~ An apparatus for positioning a test head, comprising:

a support structure which provides three degrees freedom to the test head;

a sliding member of the support structure for guiding motion of the test head along three degrees of freedom;

a first lock for preventing motion of the test head in one degree of freedom; and

a second lock for preventing motion of the sliding member and preventing motion of the test head in two of the three degrees of freedom.

~~wherein motion in the three degrees of freedom are prevented by actuation of the first lock and the second lock.~~

2. (Currently Amended) The ~~cradle motion unit apparatus~~ of claim 1, wherein the three degrees of freedom include a translation motion along a first axis, a first rotation motion about a second axis, and a second rotation motion about a third axis.

3. (Currently Amended) The ~~cradle motion unit apparatus~~ of claim 2, wherein actuation of the first and second locks prevents the first and second rotation motions and the translation motion.

4. (Currently Amended) The ~~apparatus cradle motion unit~~ of claim 2, wherein the support structure includes a first cradle side and a plate coupled to the first cradle side for providing the translation motion and the first axis that is substantially parallel to the first cradle side.

5. (Currently Amended) The ~~apparatus cradle motion unit~~ of claim 4, wherein the second axis is orthogonal to the first axis.

6. (Currently Amended) The ~~apparatus cradle motion unit~~ of claim 5, wherein the third axis is orthogonal to the first axis and the second axis.

7. (Currently Amended) The ~~apparatus cradle motion unit~~ of claim 6, further comprising:

at least one guide block coupled to the ~~load~~test head, the at least one guide block having a circular arc shaped slot, wherein

a center of the circular arc shaped slot is aligned with the third axis, and

the circular arc shaped slot is located on a circle that is orthogonal to the third axis.

8. (Currently Amended) The ~~apparatus cradle motion unit~~ of claim 4, further comprising:

at least one guide block coupled to the ~~load~~test head, the at least guide block having a circular arc shaped slot; and

at least one cam follower attached to the plate for insertion into the circular arc shaped slot.

9. (Currently Amended) The ~~apparatus cradle motion unit~~ of claim 7, further comprising:

at least one cam follower attached to the plate for insertion into the circular arc shaped slot,

wherein the circular arc shaped slot and the at least one cam follower are arranged so that rotation about the center is not at a center of gravity of the load.

10. (Currently Amended) A system for ~~positioning~~guiding a test head along three degrees of freedom where the first degree of freedom is rotation about a first axis, the second degree of freedom is rotation about a second axis which is orthogonal to the first axis, and the third degree of freedom is translation along a third axis that is orthogonal to both the first axis and the second axis,

and wherein the system comprises:

a sliding member for guiding the test head along three degrees of freedom,

having two a first lock for preventing motion of the test head in one degree of freedom,
and

a second lock for preventing motion of the sliding member and for preventing motion of the test head in two of the three degrees of freedom. ~~locks such that motion in all three degrees of freedom is inhibited when both locks are activated.~~

11.-15. (Canceled)

16. (Original) An apparatus attached to a side of a cradle for positioning a load relative to the cradle, the apparatus comprising:

a sliding arm structure between the side of the cradle and the load for translation motion along a first axis;

an arm support block, also between the side of the cradle and the load, for rotating the load about a second axis orthogonal to the first axis;

a guide block structure, at least a portion thereof being between the side of the cradle and the load, for rotating the load about a third axis orthogonal to the first axis and the second axis.

17. (Original) The apparatus of claim 16, wherein the guide block structure includes at least one circular arc shaped slot that defines the second rotation motion, the third axis being located at a center of the at least one circular arc shaped slot.

18. (Original) The apparatus of claim 16, wherein
the sliding arm structure is attached to the side of the cradle,
the arm support block is adjacent to the sliding arm structure and between the sliding arm structure and the guide block structure, and
the guide block structure is coupled to the cradle.

19. (Currently Amended) The apparatus of claim 16, further comprising
a first lock coupled to the sliding arm structure~~cradle~~; and
a second lock coupled to the cradle~~sliding arm structure~~,
wherein actuation of the first and second locks prevents the translation motion, the first rotation motion, and the second rotation motion.

20. (Currently Amended) A method for positioning a test head in a cradle motion unit, the method comprising the steps of:

positioning the test head on a first degree of freedom relative to a cradle of the cradle motion unit;

positioning the test head on a second degree of freedom relative to the cradle;

positioning the test head on a third degree of freedom relative to the cradle;

actuating a first lock coupled to the cradle; and

actuating a second lock coupled to the cradle,

wherein actuation of the first and second locks prevents motion of the test head relative to the cradle in the three degrees of motion.

21. (Original) A method of positioning a test head relative to a cradle while said cradle is kept stationary, the method comprising the steps of:

imparting linear motion relative to the cradle;

imparting tumble motion relative to the cradle;

imparting theta motion relative to the cradle;

actuating a first lock coupled to the cradle; and

actuating a second lock coupled to the cradle,

wherein actuation of the first and second locks prevents motion in the three degrees of motion.